Medical Cannabis Gas Chromatograph (GC)
Configuration choices February 2011

SRI can configure a gas chromatograph (GC) in hundreds of ways to perform almost any analysis. Two chassis sizes are available. The smaller 310C chassis is very portable while the larger 8610C chassis allows for more complex hardware. All SRI GCs are portable and easily shipped by UPS, FedEx and even as airline baggage.

Medical Cannabis contains many active cannabinoid compounds, but three are considered important, cannabidiol (CBD), THC, and cannabinol (CBN). A GC is the perfect tool for measuring the amount of these three compounds in plant material, resin , tinctures and edibles. Other analytical techniques such as HPLC and GC/Mass Spec can also be used, but are much more expensive to buy, and vastly more complicated to operate yet they do **NOT** provide superior data. For this analysis, GC is the best solution. Unlike a HPLC, the GC naturally de-carboxylates the THCA (the original molecule produced by the plant) into Delta-9THC saving a processing and reporting step. Total cost to perform a GC analysis is less than one dollar, requires only .1 gram of sample and usually takes less than 5 minutes.

Four common configurations have become popular for measuring medical cannabis.

1) Gasless, ultra portable, simple
2) Industry standard FID
3) Automated, hi-volume
4) Pesticides and potency both

Comes with a heavy duty shipping case.

Weighs about 35 pounds (16 kilograms)

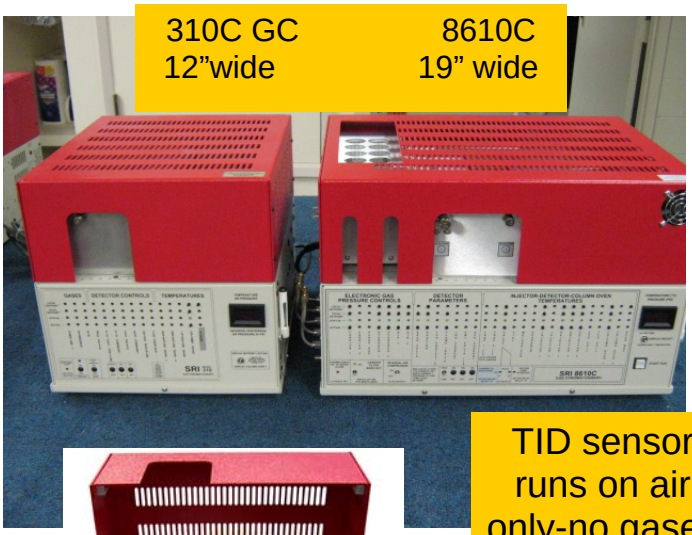
www.srigc.com Prices in USD add Freight and GST - in Australia Availability ? - Enquire !

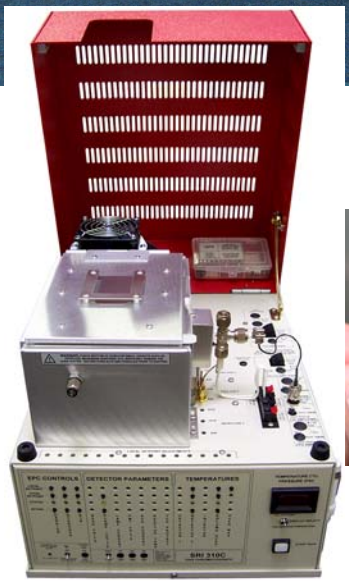
Medical Cannabis Gas Chromatograph (GC)
Gasless and Simple Configuration

Configuration #1
"Gasless" TID Detector based Potency Configuration
Part# 8610-0094 $9999.00

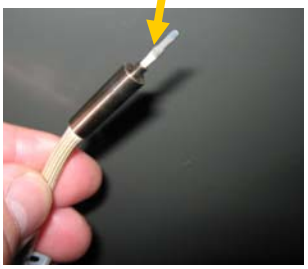
This GC is configured on the ultra-compact 310C chassis (only 12 inches wide) and includes an TID (thermionic ionization detector) which requires no gas cylinders to operate. All required gas is provided by the built-in "whisper quiet" air compressor and dryer. This GC configuration is appropriate for users with no prior GC experience, and/or for those who want maximum portability. You can literally carry the GC around under your arm, it's that portable.
Just add a Windows PC (XP, Vista, or Windows 7) desktop or laptop. SRI's easy to learn PeakSimple software is included.
The GC comes complete with syringes, and a starter pack of vials; everything you need except the standards and a balance.

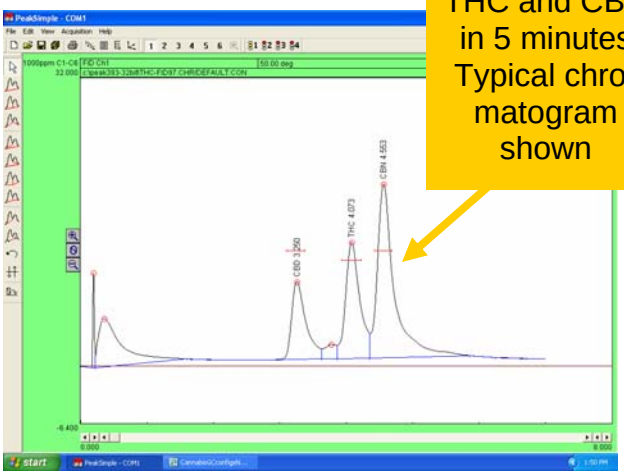
Run times can be as short as 3-4 minutes. A typical calibration chromatogram is shown at right.





TID sensor runs on air only-no gases required





Measure CBD, THC and CBN in 5 minutes Typical chromatogram shown

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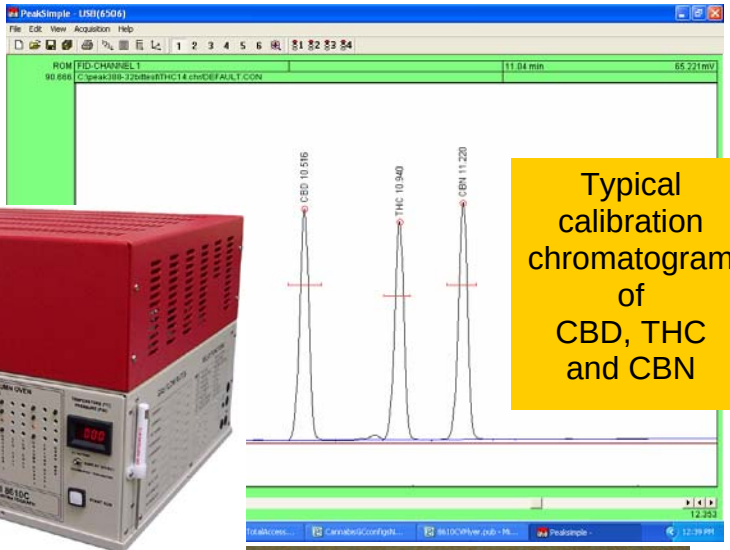
Medical Cannabis Gas Chromatograph
Industry Standard FID Configuration

Configuration #2
FID Detector based
Potency Configuration
Part# 8610-0091 $10,210.00

This GC configuration includes an FID (flame ionization detector) which requires hydrogen gas to operate. Because hydrogen is used as a carrier gas, higher resolution is possible when measuring the CBD, THC and CBN molecules in cannabis. A photo of a typical hydrogen gas cylinder is shown at right. This GC configuration is appropriate for users with prior GC experience, for those who want to be equipped with industry standard hardware, or for those who may later wish to add the extra hardware required to measure the pesticide content of cannabis.
Run times can be as short as 3-4 minutes.

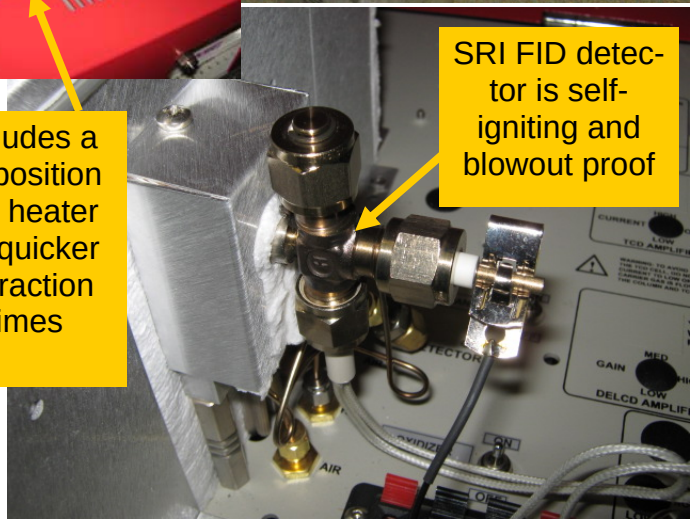
User's will need a hydrogen cylinder, Windows computer and AC power. Syringes and a starter pack of vials is included.



Typical calibration chromatogram of CBD, THC and CBN

Hydrogen Gas cylinder

Includes a 12 position vial heater for quicker extraction times



SRI FID detector is self-igniting and blowout proof

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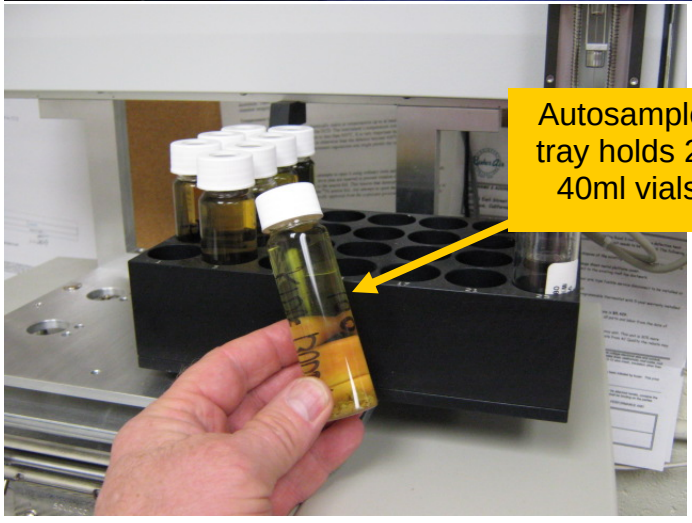
Medical Cannabis Gas Chromatograph
Automated Hi-volume Configuration

Configuration #3
Potency test with FID detector and Autosampler
Part#8610-0093 $25,530.00

This GC configuration is appropriate for user's who have higher numbers of samples per day to analyze for CBD, THC and CBN. The autosampler accommodates 28 of the 40milliliter extraction vials so users do not have to transfer the THC extract from the extraction vial to a smaller autosampler vial thus saving an expensive and time consuming step. The autosampler makes it practical to take 2-3 samples from the same vial and average the results, leading to increased accuracy. The autosampler lets the user walk away or operate overnight. This configuration is appropriate for users with prior GC experience and who have or anticipate a high sample volume.

This configuration is not as portable as Configurations #1 or #2 since it is physically larger and the autosampler must be removed from the GC prior to transport.



Medical Cannabis Gas Chromatograph
Pesticides and Potency Configuration

Configuration #4
Potency plus Pesticides
GC configuration
Part# 8610-0092 $21,889.00

This GC configuration permits two separate analyses which can be run simultaneously. The first analysis is for potency (CBD, THC and CBN) using a FID detector. The second analysis is for pesticides in cannabis using dual detectors. The NPD (nitrogen phosphorus detector) measures organo-phosphorus pesticides (Malathion) and many of the carbamate pesticides (Sevin).
The DELCD (dry electrolytic conductivity detector) measures organo-chlorine pesticides like Dursban, DDT, and Endrin.

The photos at right show the three columns, three detectors and dual injectors which make this possible.

This GC configuration is appropriate for users with prior GC experience since the pesticide screen is more complex than the potency test. It should be understood that while 90% of all pesticides can be detected with this GC configuration, it is not possible to measure every possible pesticide since there are hundreds of pesticide molecules in a variety of chemical classes. It does allow the user to screen for most common pesticides in a very cost effective (less than 25 cents per analysis) manner using only .1 grams of sample.